Triggering Verbal Presuppositions

We argue that presuppositions of verbal predicates are predictable. Following Stalnaker (1974) among others, we assume that an entailment ψ of an atomic sentence S is turned into a presupposition of S if ψ is distinguished in some sense from the rest of the meaning that S expresses. We propose that entailments that are not *about* (in the formal sense to be defined below) the principal arguments of the sentence S are presupposed. Unlike previous approaches to presupposition triggering by Wilson and Sperber (1979), Simons (2001) and Abusch (2002), the present paper can avoid overgeneration (in contrast with Simons and Wilson and Sperber) and does not have to resort to lexical stipulation (as in the case of Abusch).

The proposal We use a sentence when we want to provide information about the principal arguments of its main predicate. Assume that the principal arguments of a sentence S are: (a) the participants of the event denoted by the matrix verb and (b) the event time of the matrix verb. Given this, the mechanism that turns certain entailments into presuppositions is as follows:

(1) The entailments of an atomic sentence S that are not about the principal arguments of the matrix predicate of S are presupposed.

The two types of principal arguments are treated separately by the triggering mechanism: It checks whether there are entailments that are not about the participants of the event, if yes, these are presupposed. Independently it also checks whether there are entailments of S that are not about the event time, if yes, these are presupposed as well. The above mechanism applies to atomic sentences. Presuppositions of complex sentences are derived from the presuppositions of atomic sentences they contain, via some projection mechanism (e.g. Heim 1983 or other)

Being about an argument Demolombe and Fariñas del Cerro (2000) defined what it means for a formula of FOL to be about an argument, which we extend for richer languages that can handle attitude verbs. The proposal has two parts: first we need to introduce the notion of <u>*variants*</u> of a possible world w with regard to an object c. Two worlds w and w' are c-variants if they only differ by the truth assignment to atomic sentences where *c* appears as an argument: Given this, we might define <u>aboutness</u> as follows:

(2) A sentence S is **about** an argument c of S iff there are two worlds w and w' which are c-variants and S(w)=1 and S(w')=0

The sentence *S=Fido is tired* is <u>about</u> Fido iff there are two *Fido*-variants w, w', st. S(w)=1 and S(w')=0. Notice that the definition above quantifies over all worlds, therefore the entailment ψ=*Some individual is tired* is also about Fido, because there are two worlds which differ only in the properties of Fido, st. and S(w)=1 and S(w')=0, e.g. if Fido is the only tired individual in w.

Example 1: *Know* Consider S =*John knows at t_1 that Mary is tired.* The principal arguments of S are *John* (the event participant) and t_1 (the event time). Let K be the set of all the propositions that S entails. K will contain (a) lexical entailments of S, (e.g. γ, φ, ψ, χ, ξ below), (b) entailments formed by replacing syntactic constituents by existentially quantified variables, and (c) disjunctions of any of the previous with any proposition.

(3) γ=John knows that Mary is tired; ψ=John believes that Mary is tired;

φ=John's belief is justified; χ=Mary is tired ; ξ=John is capable of having beliefs

Let's calculate first if there are any entailments that are not about the event participant, *John*. Let's look at the elements in K: (a) Among the lexical entailments in (4) above only χ is not about John. (b) existential sentences in K are about John (c) (as shown in the paper) among disjunctions in K the propositions that are not about John are tautologies or contain χ as a disjunct. Thus the intersection of the entailments that are not about the principal argument *John* is the proposition χ that Mary is tired, which is indeed the presupposition of S above[1]. (In general, it is shown that closing lexical entailments under entailment does not generate more presuppositions than can be derived from the set of lexical entailments alone). Second, we check if there are entailments of S that are not about the event time: ξ is such[2]. In general, we assume (extending some remarks in Magidor (2007)) that sortal presuppositions always have a modal form, where the modality involved is some root modality. Hence, they will always be independent from the matrix event time, and thus presupposed.

Example 2: *Stop* Consider the sentence *John stopped dancing with Mary at t_1* which has two principal arguments (*John* and t_1) and is assumed to trigger the following lexical entailments:

(4) ψ=John does not dance with Mary at $\mathbf{t_1}$; φ=John danced with Mary at $\mathbf{t_2}$ (where t_2 refers to some time before t_1); χ=John stopped dancing with Mary at $\mathbf{t_1}$; ξ= John is capable of dancing .

Let's look at the event time ($\mathbf{t_1}$). Among the lexical entailments above the ones not about $\mathbf{t_1}$ are φ and ξ, which are also the entailments that are presupposed. (As before, the disjunctions in K that are not about t_1 will be tautologies or will contain φ as a disjunct.). Looking at the event participant, *John*, we can see that all of the entailments above are about John.

Example 3: *Discover* Consider *John discovered that Sue was tired at t_1*. The principal arguments are *John* and the event time. Analogously to *stop*, the entailment that is not about t_1 (besides sortal presuppositions) is that John did not know that Sue was tired at t_2 ($t_2 < t_1$). Analogously to *know*, the entailment not about John is the proposition that Sue was tired.

Example 4: *Kill* Consider the sentence *John killed Bill at t_1*. The principal arguments are *John, Bill* and t_1. The lexical entailments might be:

(5) ψ=John killed Bill at $\mathbf{t_1}$; φ=Bill is dead at $\mathbf{t_1}$ χ=Bill was alive at $\mathbf{t_2}$ (where t_2 refers to some time before t_1); ξ= John is capable of killing

Looking first at the participants in the event *John* and *Bill*, it seems that no lexical entailment is such that it is not about at least one of these. Considering the event time t_1, χ and ξ are not about t_1 and might indeed considered to be presuppositions of S.

Selected References: Abusch, D. (2002), *Proceedings of SALT 12*. D&FdC (2000), *In S. Hölldobler (ed.) Intellectics and Computational Logic,* 85-99, Kluwer. Magidor, O. (2007) D-Phil Thesis, Oxford University. Simons, M. (2001), *Proceedings of SALT* 11. Stalnaker, R.(1974), In Munitz, M. and Unger, P. (eds.) *Semantics and Philosophy.* NYU Press.

[1] Presuppositions of sentences with co-referential pronouns (e.g. *John knows that he is tired*) are derived by assuming that the presupposition is calculated on a level of representation that does not yet have the contextual information about co-reference factored in.

[2] Notice that if the embedded clause corresponding to χ did not have present tense, it would be predicted to be presupposed by this calculation as well, not just in virtue of not being about John.